Geospatial Research Laboratory

Engineer Research and Development Center (ERDC)

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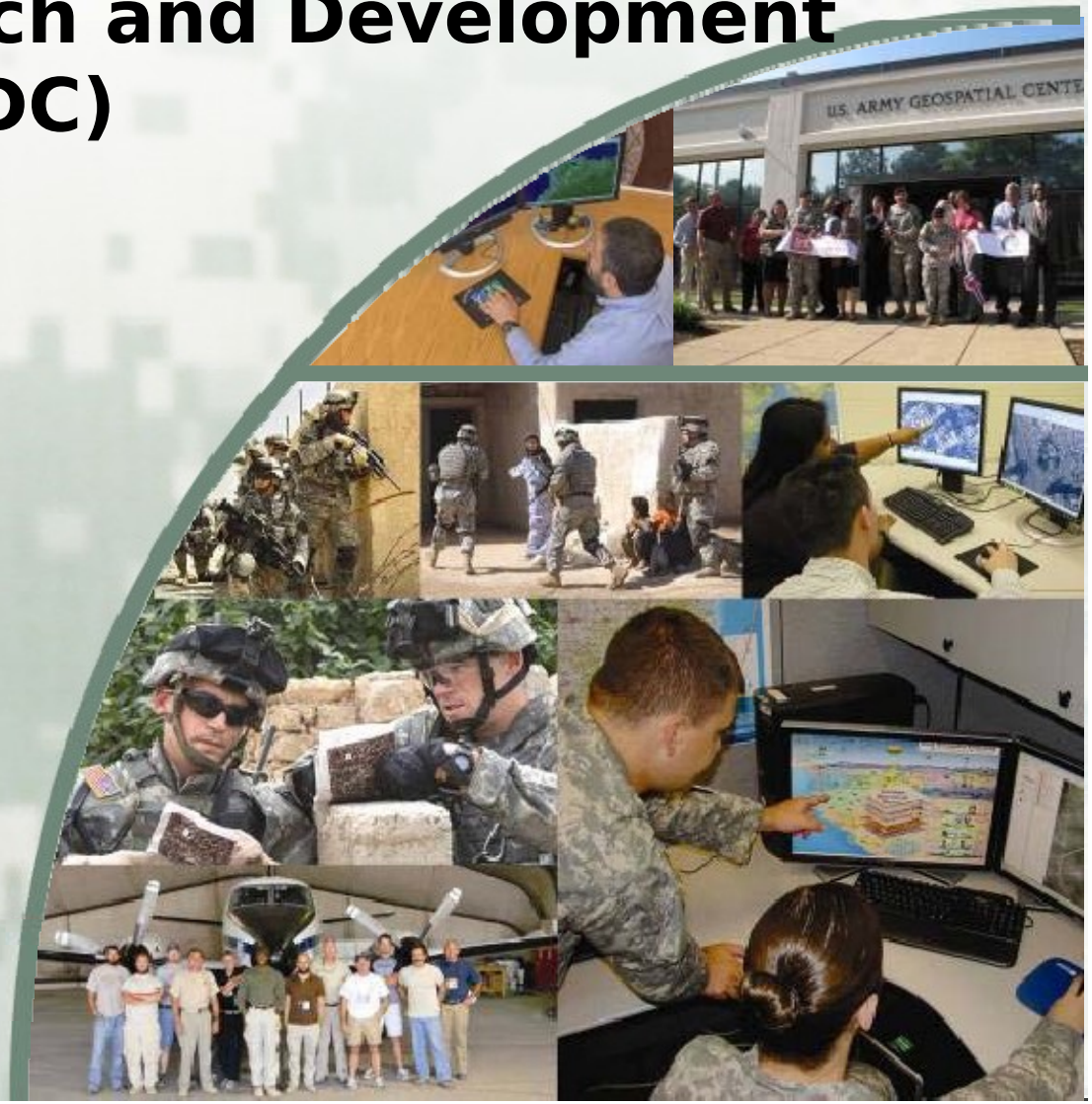
Division Chief

1 December 2016

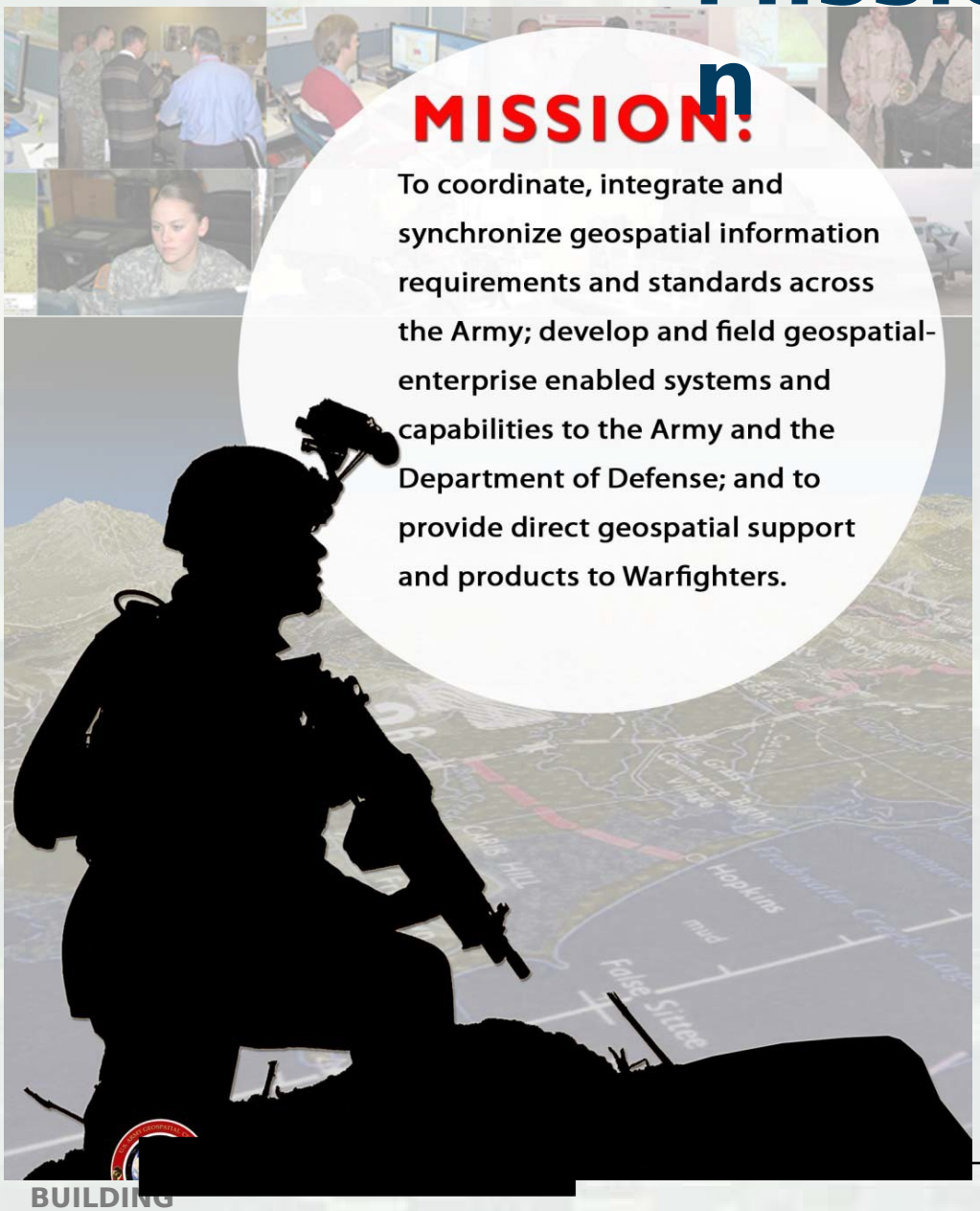


U.S.ARMY

US Army Corps of Engineers

ERDC
Engineer Research and Development Center

Mission


MISSION:
To coordinate, integrate and synchronize geospatial information requirements and standards across the Army; develop and field geospatial-enterprise enabled systems and capabilities to the Army and the Department of Defense; and to provide direct geospatial support and products to Warfighters.

BUILDING STRONG®

Innovative solutions for a safer, better world

Engineer Research and Development Center (ERDC): Geospatial Research Lab (GRL)

The **Geospatial Research Lab** is co-located with the **Army Geospatial Center (AGC)** in Alexandria, VA

Department of Defense

Department of Army

US Army Corps Of Engineers (USACE)

ERDC

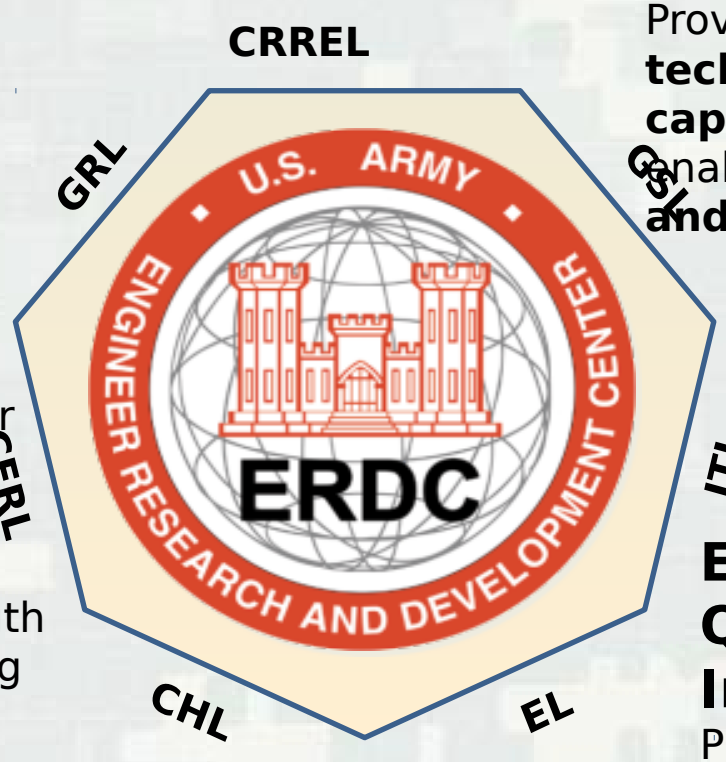
US Army Engineer Research & Development Cen
Business Areas

Geospatial Research and Engineering (GRE)

Provides the data, analytic tools, information and decision framework capabilities to **ensure superior situational awareness** of the operational environment for the Warfighter.

Civil Works (CW)

Contributes to the strength of the Nation by providing **innovative and environmentally sustainable solutions** to the Nation's **water resources challenges**.



Military Engineering (ME)

Provides **innovative technologies and capabilities** to the Warfighter enabling **force protection and maneuver**.

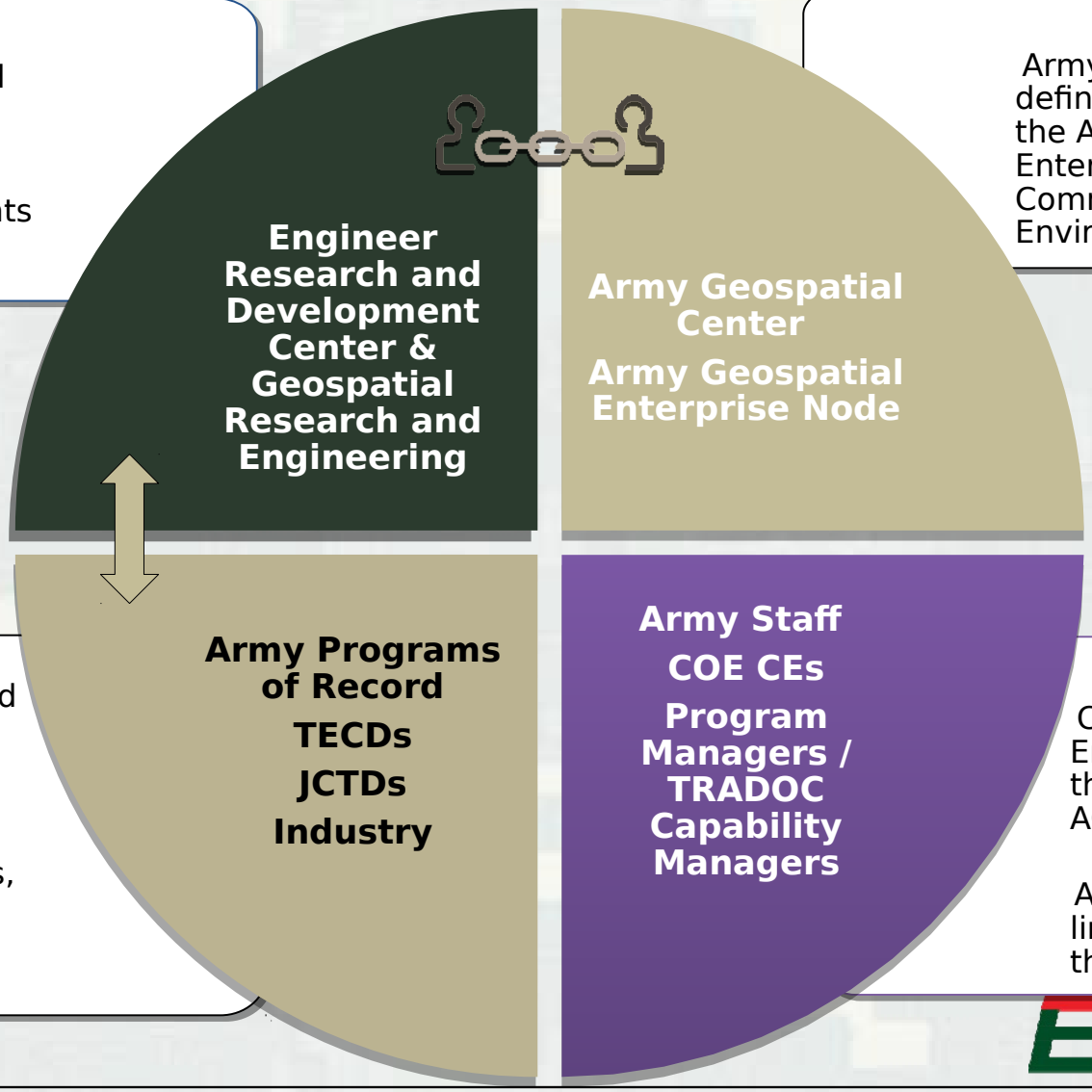
Environmental Quality & Installations (EQ&I)

Provides cutting edge solutions for Army installations, training ranges and contingency basing, particularly in the areas of **environmental sustainability** and **energy security**.

GRE's Place in the Geospatial Ecosystem

Geospatial Research and Engineering (GRE) addresses gaps and requirements identified through AGC touch points to Army Acquisition programs.

Army Geospatial Center defines and helps implement the Army Geospatial Enterprise (AGE) through the Common Operating Environment (COE).



GRE research transitioned to Army Programs.
Programs shape GRE portfolio through identification of requirements, challenges, and gaps.
GRE R&D influences and shapes industry.

COE Computing Environment (CE)s provide the architecture for the AGE Node

Army Acquisition programs linked to GRE technology through AGC touch points.

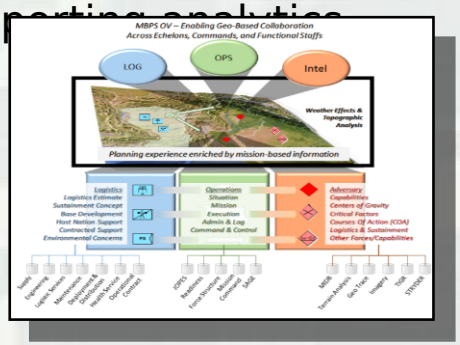
ERDC

Geospatial Research and Engineering (GRE) Overview

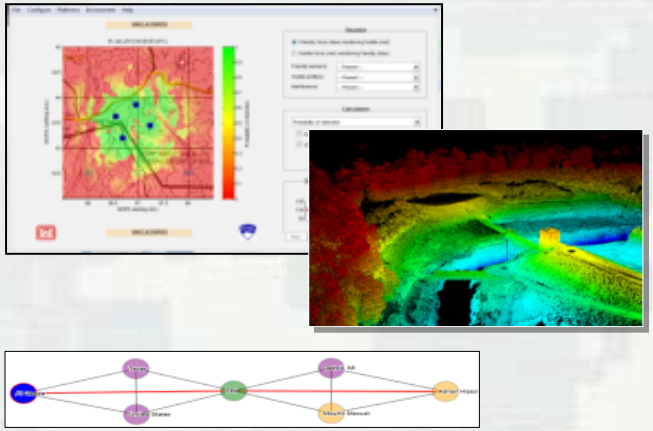
Geo-Enabled Computing Environments	Geospatial Intelligence	Human Geography

GRE addresses capability gaps in establishing a flexible and adaptive Army Geospatial Enterprise (AGE) and the supporting analytics and services enabling all Warfighting Functions with particular focus on Intelligence Preparation of the Battlefield and Mission Command.

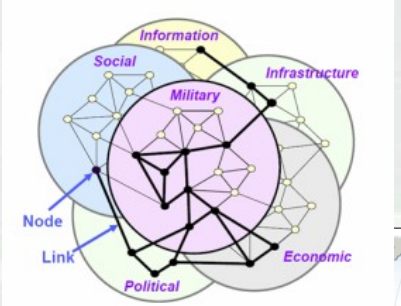
Implementing the AGE through a Standard and Sharable Geospatial Foundation (SSGF) and supporting analytics



Geospatial capabilities for superior situational awareness; knowledge of the terrestrial impacts on all phases of unified land



Knowledge of the theater environment including culture, terrain, climate, infrastructure, and

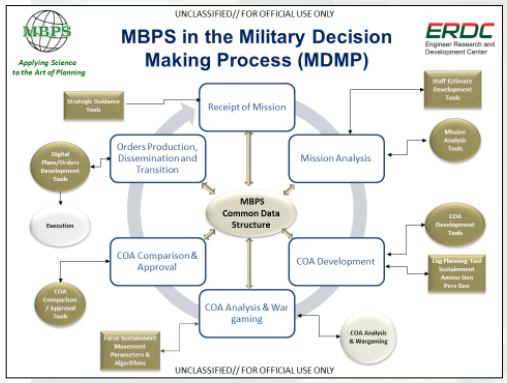


Warfighter | CCMD | TRADOC | PEOs | Labs/Centers | Academia | Industry

Geospatial Research and Engineering (GRE) Overview

Geo-Enabled Computing Environments

Map Based Planning Services (MBPS)
FY16-18 (STO-R)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MBPS
Applying Science to the Art of Planning
MBPS in the Military Decision Making Process (MDMP)
ERDC
Engineer Research and Development Center
Receipt of Mission
Orders Production, Dissemination and Transition
Mission Analysis
MBPS Common Data Structure
COA Comparison & Approval
COA Development
COA Analysis & War gaming
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Geospatial Intelligence

Advanced LADAR for Terrain Acquisition and Ranging (ALTAR)
FY16-18

Spatio-Temporal Reasoning and Introspection of Data and Embedded Relationships (STRIDER) FY16-17

Geospatial Analytics and Applications for Point Clouds (GEOAP) FY16-18

Geospatial Analysis at the Tactical Edge (GATE) FY16-17

Army Terrestrial Modeling and Intelligence System STO
FY16-18 (STO-

Human Geography

Human-Infrastructure System Assessment for Military OPS
FY15-16

Phase Zero Assessment of Urban Security Threats
FY15-16

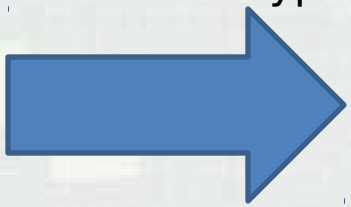
Climate Change

Warfighter
CCMD
TRADOC
PEOs
Labs/Centers
Academia
Industry

Research Technology and Development

POM 17-21 New Directions

- ***The Arctic***
- Infrastructure Protection and Revitalization
- ***Megacities***
- Acquisition Alternative Analytics
- ***Anti Access/Aerial Denial***
- ***Climate Change***
- Computational Prototyping



Required Skillsets / Geospatial Technology Experti

- **Fluorescence**
- **Geographic Information Systems**
- **Geospatial Data Generation and Management**
- **Remote Sensing/Image Analysis**
- **Surveying/GPS/Navigation**
- **Terrain Reasoning & Awareness**
- **Geospatial Enterprise Technologies**
- **Geospatial Net-Centric Experimentation**
- **Modeling and Mapping Complex Social Systems**
- **Spatio-Temporal Reasoning and Numerical Analys**

Questions